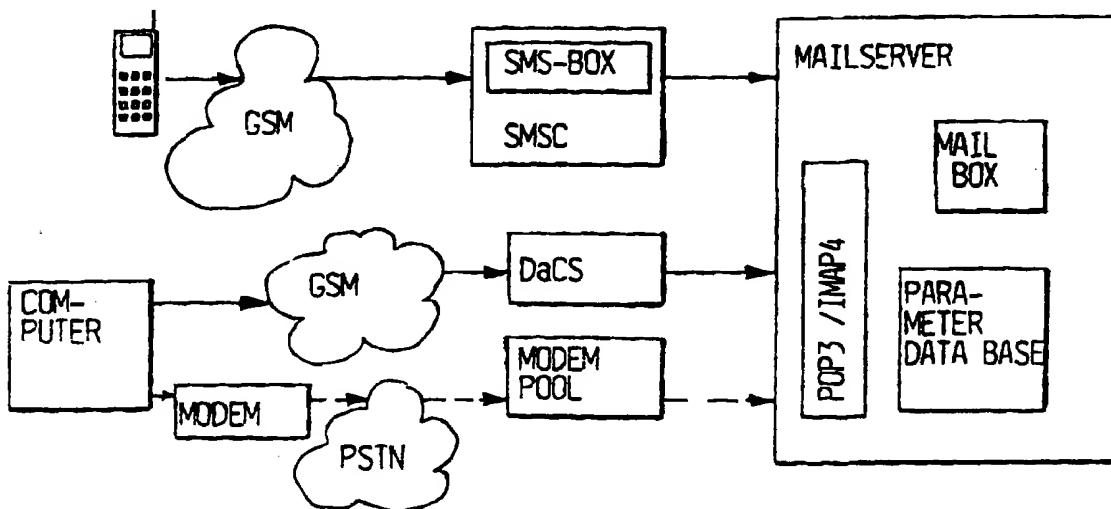




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup> : <b>H04M 3/42, H04Q 3/00</b>		A1	(11) International Publication Number: <b>WO 98/03005</b>
			(43) International Publication Date: <b>22 January 1998 (22.01.98)</b>
(21) International Application Number: <b>PCT/SE97/01245</b>		(81) Designated States: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).	
(22) International Filing Date: <b>8 July 1997 (08.07.97)</b>			
(30) Priority Data: <b>9602765-1 12 July 1996 (12.07.96) SE</b>			
(71) Applicant ( <i>for all designated States except US</i> ): EUROPOLITAN AB [SE/SE]; S-371 80 Karlskrona (SE).		Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> <i>In English translation (filed in Swedish).</i>	
(72) Inventor; and (75) Inventor/Applicant ( <i>for US only</i> ): REXEKE, Jonas [SE/SE]; Saltövägen 5, S-371 37 Karlskrona (SE).			
(74) Agents: RILTON, Kristina et al.; Oscar Grahn Patentbyrå AB, P.O. Box 19540, S-104 32 Stockholm (SE).			

(54) Title: METHOD IN TELECOMMUNICATION OPERATING SERVICE



## (57) Abstract

The invention relates to a method for a subscriber to re-edit, via a computer, the personal settings concerning mail service, GSM service, voice mail service, IN service or another service which is subscribed of a telephone operator. A "formula", indicating the settings, is ordered via the service concerned, the formula is transmitted to said computer, the settings are re-edited, the formula is returned and the new settings parameters are stored. The method can involve the re-editing of notification parameters for e-mail of a GSM-connected mobile telephone. The method can be made via a special form function over e-mail, or via a home page on Internet.

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakhstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

## METHOD IN TELECOMMUNICATION OPERATING SERVICE

**5 DESCRIPTION****TECHNICAL FIELD**

This invention relates to a method for subscribers to re-edit personal settings relating to a mail service, GSM service, voice mail service, IN service or another 10 service being applied for of a telephone operator.

**PRIOR ART**

Internet is an international network for everybody to get and give information and to communicate with other subscribers via electronic mail, i.e. e-mail. The digital 15 communication is provided by telephone operators via a network, for example the GSM network (Global System for Mobile communication) or another network.

A traditional established data connection, with for example a GSM network, involves a communication between a subscriber, connected via a modem pool in 20 a GSM exchange, and the fixed analogue telecommunication network. This is a technique involving a long time for establishing the connection and giving connections which are unreliable. This means, with regard to the communication with Internet, that two modern digital networks are to be connected via a much older analogue telecommunication network.

25

According to the new technique, Internet is directly connected to digital GSM exchanges by means of a data communication server, DaCS, to gain total access to Internet. This means that the setting up is faster, the connection is more reliable and it is cheaper to surf and get mail on Internet. This system is 30 specially developed for mobile use.

There are known systems, intended for mobile telephones, where an e-mail can be directly read on a display of a pocket telephone. A text message, or a so

called SMS (Short Message Service) notification, can have information about the sender, the time for dispatch, the head, the transmission time and so on. The receiver decides whether he or she should read the e-mail immediately, which is done by connecting the mobile telephone to a computer, which gets the 5 SMS notification from the telephone. After that he or she answers the question whether he wants to get the mail now or later. With some Internet operators you have to establish the connection to the e-mail box yourself and look for a new mail. An e-mail can consist of a text, sound and pictures. The advantage of an e-mail is that a comprehensive mail with enclosed files can be sent. This is both 10 economically and time saving.

#### **DESCRIPTION OF THE INVENTION**

The invention relates to a method for a subscriber to re-edit his settings in connection with a mail service, GSM service, voice mail service, IN (Intelligent 15 Network) service or another service obtained by a telephone operator. Nowadays these personal settings can be made by calling the customer service or by dialling special codes, for instance \*\*21\*078... and so on, for transmitting connections and so on. Till now it has been complicated to overview, control and change such settings.

20 Thus, it is an object of the present invention to provide a method for a subscriber to re-edit existing personal settings in connection with a subscribed service without engaging the service station or the like of the operator, which is important, as services of the type mentioned above will be increased very much, 25 such as for example personal blockings, transmitted connections of certain numbers at certain times, personal voice mails and so on. It is desirable that as few sheets of paper as possible should be sent between the subscribers and the subscription services.

30 The method according to the invention is characterised in that the subscriber, via his mobile telephone, order the service "formula" in which he wants to change the settings. The formula, indicating the personal settings, is transmitted to the computer. The settings of the formula is then re-edited according to the

wishes by means of the computer, and the formula is then returned. The changes are stored and executed for the network element in question. A receipt should be returned to the subscriber.

- 5 Embodiments of the invention are described below by means of schematic representations indicated in the accompanying drawing.

Figure 1 shows a diagram relating to the transmission of the mail formula and the change of the mail formula according to an embodiment of the invention.

10

Figure 2 shows a simplified diagram relating to the delivering of and the receipt of a changed formula according to an embodiment of the invention.

15 According to known technique relating to Internet subscriptions, including a mail service, for mobile telephones, the mobile telephone, for example a pocket telephone, indicates that there is an e-mail to get by means of a text notification, a so called SMS notification, on a display of the telephone. Such an SMS notification can contain information about the sender, the head and the extent of the e-mail.

20

In what way a text message is drafted depends on the settings of the "formula" which are made up in connection with the start of the subscription. These settings are stored in a parameter data base in a mail server which is accessible, via GSM, by connecting the mobile telephone with a portable computer, or with a computer which is connected to the fixed telecommunication network via a modem.

25  
30 According to the embodiment example the GSM network, which is the preferred communication system used in connection with the invention, has a direct connection to Internet via for example a DaCS (Data Communication Server), which gives the subscriber access to the Internet world wide web (WWW) in order to "surf on the net". This means that the time for establishing a connection

decreases from 40 s to 15 s compared with a traditional connection via the fixed telecommunication network.

- In connection with the subscription of the mail service the settings of the
- 5 parameters of the mail formula are determined, i.e. if an SMS notification is to be given, how many characters are to be received on the e-mail and with the SMS notification, respectively, how the SMS notification is to be designed and so on. Data relating to this mail program are stored in a data base which is connected to a mail server.
- 10 Different types of passwords, control numbers and so on, are used so that no one might falsify an other person's e-mail address. A control field can be placed, concealed or open, in the formula.
- 15 According to the invention the subscriber then can change these parameters himself in the following way. See figures 1 and 2.
- The subscriber transmits, from for example a mobile telephone, an SMS with for example the text "criteria" to an SMSC (Short Message Service Centre) which is connected to a mail server. The mail server identifies the subscriber and the produced "criterion" mail ("formula") is transmitted to the subscriber computer via GSM or PSTN from the mail server. See figure 1. The reason why an SMS is used, is to guarantee that the sender is the one he says.
- 20
- 25 On the display the formula can have the following appearance, for example:
- |                                    |   |                                     |               |
|------------------------------------|---|-------------------------------------|---------------|
| 01 SMS notification                | : | yes                                 | (yes/no/prio) |
| 02 Limit for e-mail/notification   | : | 300 characters                      |               |
| 03 Definition of SMS notification  | : | [subject][sender][trans.time][size] |               |
| 30 04 Transmit the mail to address | : | [karl.karlsson@mailbox.euromail.se] |               |

The subscriber now changes the transmitting connection to:

04 Transmit the mail to address : [jonas.jonasson@mailbox.euromail.se]

In the "criterion"-mail there is an identification code to be filled in. There are also different security regulations, for example that the "criterion"-mail only might function once, during a certain time and so on.

5

The subscriber then return the "criterion"-mail with the new settings to the mail server. The mail server checks that the identification corresponds and that the regulations are fulfilled. The new parameters are stored in a parameter data base. The mail server executes the ordered settings and "contacts" the corresponding network element (GSM service, voice mail service, IN service and so on). An SMS might be returned to the subscriber as a receipt of the change of the settings.

10

An advantage of the system is that it is client independent, i.e. it can be used in connection with all types of computers and services supplying a mail service supporting the so called standard protocol, IMAP4 or POP3 or the like. The communication is only with the mail server which in turn is connected to a parameter data base where all the parameter values for all subscribers are stored and can be accessed, changed, executed and stored. The parameter data base can have a connection with different network elements, i. e an operator's mail service, GSM service, voice mail service, IN service and so on.

20

Another advantage of the invention is that the personal settings for the respective service can be observed in the "formula" in plain language.

25

A further advantage is that the present settings can be contained in a memory and can be retrieved if so is required.

30

The embodiment example above describes a re-edition via a special form function via e-mail, but a re-edition can also be made via a home page on Internet.

- According to this embodiment example any computer can be used which has access to Internet and which can be connected to a mobile telephone of the subscriber. In this embodiment the service SMS is used as a carrier of a password for the authority control to a special home page (Web page) of the
- 5 telephone operator, which home page is intended for re-editing of settings as regards the subscription of the telephone operator. The password is preferably used together with usual user identity.
- In connection with the logging in to the telephone operator's special home page
- 10 for re-editing the telephone number of the subscriber is indicated. A Web server generates a password which is connected to this telephone number and which password is preferably valid during a certain time, for example 5 minutes. This temporary password is sent via GSM as an SMS to the mobile telephone of the subscriber. The subscriber reads the just arrived temporary password on the
- 15 display of his telephone and gives this as the password for the "GSM protected" home page and has then access to pages concerning the subscription of the subscriber. Via these pages services can now be ordered, settings can be changed, reading of the balance can be done etc., concerning the subscriber's own subscription.
- 20 In order to make the company administration easier someone can have a certificate to administrate several subscriptions via a special telephone number.
- It is of no importance for the security how the connection to Internet is made in
- 25 this embodiment example. The subscriber can make the logging in from any computer by Internet access as long as he has the possibility to get the temporary password via his GSM connected mobile telephone for the access to the special home page.
- 30 Each logging into the subscription pages is stored in a history data base in order to trace when a certain subscriber has gained access to said home page.

**CLAIMS**

- 5        1. A method for a subscriber to re-edit, via a computer, the personal settings concerning a mail service, GSM service, voice mail service, IN service or another service being subscribed of a telephone operator, **c h a r a c t e r i s e d** in that
- a "formula" is ordered, via for example a mobile telephone, from for example a server or the like function for said service,
  - the formula with existing settings for said service is transmitted to said computer,
  - the existing settings are changed by means of the computer,
  - the changed formula is returned to the server and stored to function as a new formula,
  - the server contacts the affected network element and the change is executed,
  - an eventual receipt is returned.
- 20      2. A method according to the claim 1, **c h a r a c t e r i s e d** in that the re-editing is made via a special form function via e-mail.
- 25      3. A method according to any of the claims 1-2, **c h a r a c t e r i s e d** in that the re-editing relates to the setting of notification parameters for e-mail of a GSM connected mobile telephone.
- 30      4. A method according to any of the preceding claims, **c h a r a c t e r i s e d** in that
- the subscriber transmits an SMS via a GSM connected mobile telephone to a service centre (SMSC) connected to a mail server, which establishes the identification of the subscriber,
  - a mail is made indicating the existing personal settings of the service,
  - the mail is transmitted to the subscriber's computer,

- the settings are changed according to the wishes of the subscriber,
- a changed mail is returned to the mail server,
- the mail server checks the identification of the subscriber,
- the mail server stores the new settings in a memory,
- 5 - an eventual receipt is returned to the subscriber.

5. A method according to the claim 1, **c h a r a c t e r i s e d** in that the re-editing is made via a home page on Internet.

10 6. A method according to the claim 5, **c h a r a c t e r i s e d** in that a password, preferably valid during a certain time and connected to the telephone number of the subscriber and transmitted as an SMS from a web server to the GSM connected mobile telephone, is used to gain access to that special home page of the telephone operator where the re-editing can be made via the computer.

15 7. A method according to any of the preceding claims, **c h a r a c t e r i s e d** in that set parameters are stored in a parameter data base being in connection with said network elements.

20 8. A method according to any of the preceding claims, **c h a r a c t e r i s e d** in that one or more former settings are stored in a memory.

1/1

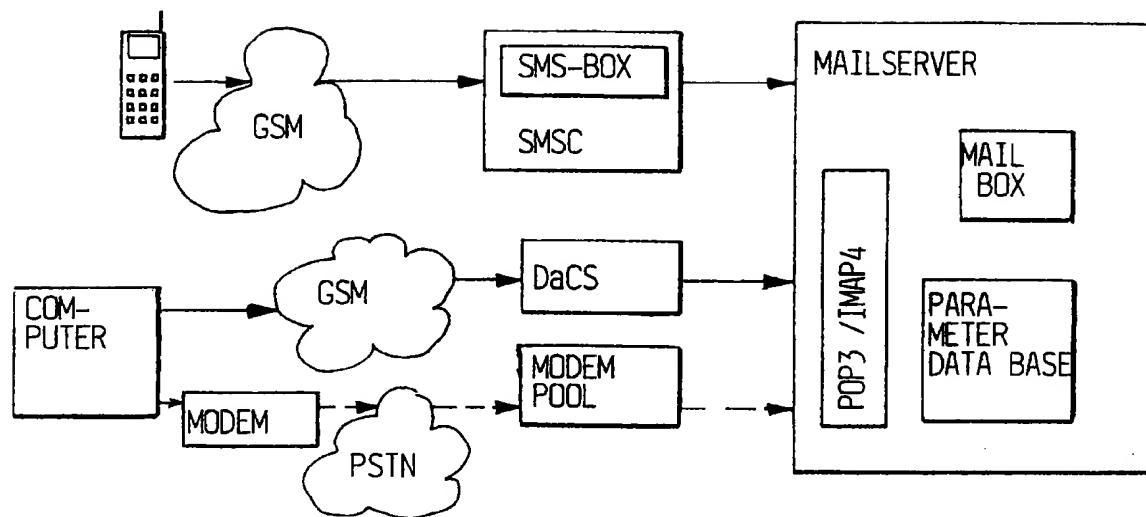


FIG.1

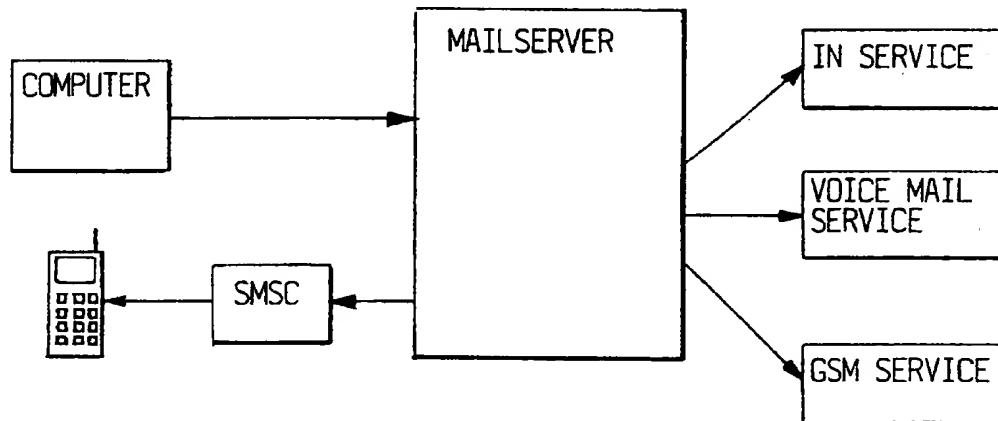


FIG. 2

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 97/01245

## A. CLASSIFICATION OF SUBJECT MATTER

**IPC6: H04M 3/42, H04Q 3/00**

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

**IPC6: H04M, H04Q**

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

**SE,DK,FI,NO classes as above**

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**WPI**

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 9605685 A1 (DIGITAL SYSTEMS INTERNATIONAL, INC.), 22 February 1996 (22.02.96), page 2, line 25 - page 5, line 4 --	1-8
A	WO 9508892 A1 (AT & T CORP.), 30 March 1995 (30.03.95), page 2, line 15 - page 3, line 2 --	1-8
A	US 5206899 A (GUPTA ET AL), 27 April 1993 (27.04.93), abstract --	1-8
A	US 4611094 A (ASMUTH ET AL), 9 Sept 1986 (09.09.86), column 2, line 24 - line 42, abstract --	1-8

Further documents are listed in the continuation of Box C.

See patent family annex.

- \* Special categories of cited documents:
- "A" document defining the general state of the art which is not considered to be of particular relevance
- "B" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

**9 December 1997**

Date of mailing of the international search report

**11 -12- 1997**

Name and mailing address of the ISA/  
Swedish Patent Office  
Box 5055, S-102 42 STOCKHOLM  
Facsimile No. +46 8 666 02 86

Authorized officer

**Friedrich Kühn**  
Telephone No. +46 8 782 25 00

# INTERNATIONAL SEARCH REPORT

Information on patent family members

04/11/97

International application No.
PCT/SE 97/01245

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO 9605685 A1	22/02/96	CA 2197456 A		22/02/96
WO 9508892 A1	30/03/95	AU 679526 B AU 6668994 A BR 9407578 A CA 2171711 A CN 1131491 A EP 0721721 A JP 9503106 T US 5475746 A		03/07/97 10/04/95 16/07/96 30/03/95 18/09/96 17/07/96 25/03/97 12/12/95
US 5206899 A	27/04/93	NONE		
US 4611094 A	09/09/86	CA 1228659 A DE 3471566 A EP 0164362 A,B JP 61500580 T WO 8502510 A		27/10/87 30/06/88 18/12/85 27/03/86 06/06/85